

REMARKS

The Examiner has rejected claims 1-7 and 10 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,333,903 to Suzuki. The Examiner has further rejected claims 8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Suzuki in view of U.S. Patent Application Publication No. 2002/0025138 A1 to Isobe et al.

The Suzuki patent discloses a disk unit and rotating motor control apparatus for recordable optical disk unit, in which a data synchronizing rotation control unit is included for controlling rotation of a rotating motor in synchronism with a recorded data signal.

The Examiner has indicated that Suzuki discloses the claim limitation "the rotation speed control unit comprises a speed selector for selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, the difference in rotation speed between said actual rotation speed and the speed in the read mode being limited by said selection", citing Fig. 13, column 15, lines 14-58, Fig. 12, column 14, lines 40-55, fig. 24 and 25, column 24, lines 36-57, columns 4-5, lines 52-4, and stating "where based on the FG signal, a predetermined speed is chosen by the FG rotation control circuit which controls the motor which controls the rotation of the disc and Fig. 12 shows a time chart for when the apparatus is in operating in FG/OEC/WBL mode, or in read mode and Fig. 24 and 25

shows a time chart for when the apparatus is in FG/WBL mode or at the start and end of a write process."

As indicated in MPEP §2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants believe that the Examiner is mistaken. In particular, at col. 15, lines 14-58, Suzuki states:

"FIG. 13 is a functional block diagram showing an embodiment of the construction of an important part of the circuit of the WBL mode. In FIG. 13, the same designations are used as in FIG. 2. FIG. 13 shows a debounce circuit 41, a wobble PLL 42, a speed difference detector 43, a phase difference detector 44, a PWM output circuit 45, amplifiers 46 and 47, and an adder 48.

"As shown in FIG. 13, in the circuit of the WBL mode, a wobble signal input WBLIN and an encoder EFM frame synchronizing signal EEFS are compared by the speed difference detector 43, so as to obtain a speed comparison signal. In addition, the wobble signal input WBLIN and the encoder EFM frame synchronizing signal EEFS are compared by the phase difference detector 44, so as to obtain a phase comparison signal.

"The speed comparison signal and the phase comparison signal are added by the adder 48, and an added result is input to the PWM output circuit 45, so as to generate the signals MPWM, MPWMP and MPWMN.

"Accordingly, in the WBL mode, it is possible to rotate the rotating motor in synchronism with the wobble signal which is the zigzag signal of the guide groove of the CD-R disk.

"In order to carry out the above described switching operation by the CPU, it is necessary to monitor the signal DPLOCK quite frequently, thereby increasing the load on the CPU and making it difficult to rotate the rotating motor at a high speed.

"As a result, it becomes difficult to increase the recording and reproducing speed of the drive unit.

"On the other hand, in this first embodiment, the control mode is automatically switched without having the CPU to carry out the monitoring, and the recording and reproducing speed of the drive unit can be increased.

"In this mode, it is further desirable that the mode is first switched to the DEC mode when both the signal TON which indicates that the light beam is tracking the track on the disk and the signal DPLOCK are active and a predetermined time (for example, 256 EFM frames) has elapsed.

"The EFM frame refers to 1 unit of the data on the disk, and is approximately 136 μ s in the case of the standard speed of the CD.

"By counting the time in frames, the time setting is automatically shortened when the speed is controlled to a speed which is 2, 4 or 8 times the standard speed (1 times speed), so as to suit a high recording and reproducing speed."

Applicants submit that it should be apparent from the above that Suzuki is describing the adjusting of the time setting in dependence on the speed of rotation of the disk. However, there is no mention of the read rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

Further, at col. 14, lines 40-55, Suzuki states:

"First, a description will be given of the operation in the FG/DEC/WBL mode when there is recorded data.

"FIG. 12 is a time chart for explaining the operation in the FG/DEC/WBL mode when there is recorded data, with respect to the rotating motor control apparatus of the present invention. In FIG. 12, the same designations as used as in FIG.2.

"In this case, the automatic mode switching operation is carried out so that the mode is switched

to the DEC mode when the signal DPLOCK is active, and the mode is switched to the WBL mode when the signal DPLOCK is inactive.

"In other words, when the decoder PLL of the CD-DSP 32 is in a locked state, a stable data synchronization is achieved, and the rotating motor is controlled based on the recorded data."

Here, Suzuki is stating that the rotating motor is controlled based on the recorded data. Again, there is no mention of the read rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

In addition, at col. 24, lines 36-57, Suzuki states:

"FIG. 24 is a time chart for explaining the operation in the FG/WBL mode at the start of the write process. In FIG. 24, the same designations are used as in FIG. 22.

"FIG. 25 is a time chart for explaining the operation in the FG/WBL mode at the end of the write process. In FIG. 25, the same designations are used as in FIG. 22.

"In this eleventh embodiment, the switching between the WBL/AX modes is made so that the mode is set to the WBL mode up to a position slightly before (for example, 1 sector before) a position (address) where the write process starts, and the mode is switched to the AX mode when the position slightly before the position where the write process starts is reached.

"The switching between the WBL/AX modes is made as described above, because the WBL mode enables control at a high speed due to the high frequency (22 kHz) of the wobble signal, and the settling can be achieved quickly. Hence first, the rotational speed is completely synchronized to the wobble signal in the WBL mode.

"The mode is then switched to the AX mode immediately before the start of the write process, and the write process started thereafter."

This section of Suzuki describes the start-up of the rotational motor in a write process, first in the WBL mode and then switching to the WBL/AX mode immediately before the start of the write process. However, again, there is no mention of the read

rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

Finally, at col. 4, line 52 to col. 5, line 4, Suzuki states:

"A further object of the present invention is to provide a rotating motor control apparatus for a recordable optical disk unit comprising a data synchronizing rotation control circuit controlling rotation of a rotating motor in synchronism with a recorded data signal, a phase synchronizing circuit synchronizing to a phase of the data signal, a synchronous detection circuit detecting a synchronized state of the phase synchronizing circuit and outputting a lock signal, frequency generating means for outputting a FG signal having a frequency proportional to a rotational speed of the rotating motor, and a FG rotation control circuit controlling the motor to a predetermined rotational speed depending on the FG signal, where the data synchronizing rotation control circuit drives the rotating motor when the lock signal is obtained, and the FG rotation control circuit drives the rotating motor when no lock signal is obtained. According to the rotating motor control apparatus of the present invention, in a case where the data synchronization cannot be achieved in a transient state such as during a variable speed upon access, the FG control mode is automatically selected."

This portion of Suzuki describes a dual system for controlling the motor rotational speed, including a phase synchronization circuit for synchronizing to the phase of a recorded data signal and generating a lock signal, and a FG rotation control circuit for controlling the rotational speed in the absence of the lock signal, based on an FG signal proportional to the rotational speed of the motor. Again, there is no mention of the read rotation speed being selected based on the write rotation speed when switching from a write mode to a read mode.

However, Applicants submit that Suzuki does not disclose or suggest "selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, the difference in rotation speed between said actual rotation speed and the speed in the read mode being limited by said selection".

The Isobe et al. publication discloses an apparatus and method for recording and reproducing information, in which the apparatus includes a video encoding unit and a write buffer coupled to receive information from the video encoding unit, and arguably discloses recording a first continuous stream of real-time information via the write buffer and for, at the same time, retrieving a second stream of real-time information by alternating the write mode and the read mode.

However, Applicants submit that Isobe et al. does not supply that which is missing from Suzuki, i.e., "selecting one of at least two speed settings for the read mode in dependence on an actual rotation speed of the record carrier during the write mode when switching from write mode to read mode, the difference in rotation speed between said actual rotation speed and the speed in the read mode being limited by said selection".

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-10, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

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